

Waste Isolation Pilot Plant  
Class 3 Permit Modification Request  
June 2005

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Introduction	This Contingency ... (a)). This plan consists of descriptions of processes and emergency responses specific to hazardous substances, contact-handled ( <b>CH</b> ) <u>and remote-handled (RH)</u> transuranic ( <b>TRU</b> ) mixed waste, and other hazardous waste handled at the WIPP facility. <del>This permit does not authorize the disposal of remote-handled (RH) waste.</del>	Added for RH TRU mixed waste operations

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F-1	<p>As a geologic ... (603). The areas at the WIPP facility subject to <u>conditions in this permit</u> <del>RCRA</del> <del>permitting</del> include the <u>surface container staging areas in the WHB and TRUPACT Maintenance Facility (TMF)</u>, surface container storage areas in the Waste Handling Building Container Storage Unit (<b>WHB Unit</b>), <u>the Parking Area Staging Area</u>, and the Parking Area Container Storage Unit (<b>Parking Area Unit</b>), located south of the WHB Unit, and the areas below ground in which waste will be emplaced.</p> <p><del>Transuranic Package Transporter-H (TRUPACT-H) Maintenance Facility</del> - is located west of the CH bay. No TRU mixed waste management activities will occur in this facility. <u>This facility may house the equipment which will be used for waste verification and examination activities at WIPP.</u></p> <p>The RCRA permit addresses TRU mixed waste management activities in the WHB Unit, the Parking Area Unit, <u>the WHB and TMF Staging Areas, the Parking Area Staging Area</u> and the disposal units. The provisions of this Contingency Plan apply to hazardous waste disposal units (HWDU) in the underground waste disposal panels, storage in the WHB Unit and the Parking Area Unit, <u>temporary staging of containers and packages in the the WHB Staging Areas, the TMF Staging Area, the Parking Area Staging Area, the</u> Waste Shaft, and supporting TRU mixed waste handling areas. ... In addition to TRU <u>mixed</u> waste, these are the only hazardous substances currently on site which, if spilled, may be of sufficient impact to cause this Contingency Plan to be implemented. Magnesium Oxide (MgO) is stored on-site in large quantities. ...</p> <p>Waste generated ... be met. In addition, the technical requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.170 to §264.178) are applied to the operation of the container storage <del>units</del> <u>locations</u> in the WHB Unit and in the Parking Area Unit south of the WHB <u>as well as the container and package staging areas</u>. Liquid wastes may be generated as a result of the fire fighting water or decontamination solutions will be managed as follows:</p>	<p>These changes are needed to incorporate staging areas, the areas where the Permittees will perform waste verification and examination, and RH TRU mixed waste management into the Contingency Plan.</p>
F-1	<p>The Disposal Phase will consist of receiving <del>CH</del> TRU mixed waste shipping containers, unloading and transporting the waste containers to the underground HWDUs, emplacing the waste in the underground HWDUs, and subsequently achieving closure of the underground HWDUs in compliance with applicable State and Federal regulations. <u>In addition, TRU mixed waste containers will be verified and examined by the Permittees as described in Permit Attachment B7, either on-site or at the generator/storage facility.</u></p>	<p>These changes are needed to incorporate the areas where the Permittees will perform waste verification and examination and RH TRU mixed waste management into the Contingency Plan.</p>

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F-1	Waste may be generated at the WIPP facility as a direct result of managing the TRU and TRU mixed wastes received from the off-site generators. Such generated waste may occur in <del>either the WHB Unit, the RH Complex or the Underground.</del> For example, when TRU mixed wastes are received <del>at the WHB Unit, the Contact Handled Package shipping containers and the TRU mixed waste containers they</del> are checked for surface contamination.	These changes are needed to incorporate the areas where the Permittees will manage RH TRU mixed waste into the Contingency Plan.
F-1	Liquid waste, ... internal container. In no case shall the total liquid equal or exceed one volume percent of the waste container ( <del>e.g. i.e., drum, or</del> standard waste box [SWB], <u>ten-drum overpack or canister</u> ).  Special requirements for ignitable, reactive, and incompatible waste are addressed in 20.4.1.500 NMAC (incorporating 40 CFR §§264.176 and 177). The RCRA Permit Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (TSDF-WAC) precludes ignitable, reactive, or incompatible TRU mixed waste <u>from being placed into storage or disposed of</u> at the WIPP. <u>Seven (7) percent of the containers in each waste stream in each shipment will undergo waste verification and examination either via radiography, visual examination (VE) or inspection of the VE records as described in Attachment B7 to assure that no corrosive, ignitable or reactive waste is stored or disposed at WIPP.</u>	These changes update the approved container list and adds RH TRU mixed waste canisters.  This change describes the Permittees verification and examination activity at the WIPP facility.
F-1	<u>RH TRU mixed waste containers are either canisters or drums. Canisters will be loaded singly in an RH-TRU 72-B cask and drums will be loaded in a CNS 10-160B cask. Drums in the CNS 10-160B cask will be arranged singly or in drum carriage units containing up to five drums each. Canisters and drums are described in Permit Attachment M1.</u> ...  The WHB <del>Unit</del> is the surface facility where waste handling activities will take place. The WHB <del>Unit</del> has a total area of approximately 84,000 square feet (ft <sup>2</sup> ) (7,803 square meters (m <sup>2</sup> )) of which <del>38,317.533,175 square feet (3,562.7 square meters)</del> <u>is</u> <del>are</del> <u>designated as the WHB Container Storage Unit (WHB Unit) for TRU mixed waste management. Within the WHB Unit, 33,175 20914.5 ft<sup>2</sup> (3,082 1,945.7 m<sup>2</sup>) are designated for the waste handling and container storage of CH TRU mixed waste and 17,403 ft<sup>2</sup> (1,617 m<sup>2</sup>) are designated for the handling and storage of RH TRU mixed waste. These <u>is</u> <del>are</del> <u>are</u> <del>is</del> being permitted as <del>a</del> container storage units. The concrete floors <u>within the WHB Unit</u> are sealed with an impermeable coating that has excellent resistance to the chemicals in TRU mixed waste and, consequently, provide secondary containment for TRU mixed waste. ...</u>	These changes are needed to incorporate the areas where the Permittees will manage RH TRU mixed waste into the Contingency Plan.

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F-1	<p><u>There are four indoor Staging Areas where waste will be staged until the waste verification and examination requirements of Attachment B7 have been met. These areas are the CH Bay Staging Area, the TRUDOCK Staging Area, Room 108 and Airlock 107 Staging Area, and the TMF Staging Area. The floor of the WHB and the TMF provide secondary containment for these areas.</u></p> <p><u>There is one outdoor Staging Area within the Parking Area. This area is shown in Figure M1-2. This area is used to stage CH TRU or RH TRU Packages until the waste verification and examination requirements of Attachment B7 have been met. Secondary containment in these areas is provided by the Packages.</u></p>	These changes are needed to incorporate staging areas, the areas where the Permittees will perform waste verification and examination, and RH TRU mixed waste management into the Contingency Plan.
F-1	<p>Aisle space shall be maintained in all CH Bay waste storage <u>and staging</u> areas. The aisle space shall be adequate to allow unobstructed movement of fire response personnel, spill-control equipment, and decontamination equipment that would be used in the even of an off-normal event. An aisle space between facility <u>or containment</u> pallets will be maintained in all CH TRU mixed waste storage <u>or staging</u> areas.</p> <p>General Information, CH Bay <u>and RH Complex</u> Operations</p>	These changes are needed to incorporate staging areas, the areas where the Permittees will perform waste verification and examination, and RH TRU mixed waste management into the Contingency Plan.

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F-1	<p>The typical processing rate for CH waste is 14 Contact Handled Packages per day, and the maximum is 28 per day. Two shifts per day are planned; four days per week. The fifth day is for equipment maintenance with weekends available for more extensive maintenance, when necessary.</p> <p>Once unloaded from the Contact-Handled Package, CH-<u>TRU mixed</u> waste containers (7-packs of 55-gal drums, 3-packs of 100-gal drums, 4-packs of 85-gal drums, SWBs, or TDOPs) are placed in one of two positions on the facility pallet. <u>Waste containers destined for verification and examination may be placed one-high on containment pallets.</u> ... The use of facility pallets will elevate the waste approximately 9.5 inches (in.) (24 centimeters [cm]) from the floor surface. Pallets of waste will then be relocated to the northeast area of the CH bay for normal storage. This storage area will be clearly marked to indicate the lateral limits of the storage area. This storage area will have a maximum capacity of seven facility pallets of waste during normal operations. These pallets will typically be staged in this area for a period of up to five days. <u>the CH Bay Staging Area, Room 108 and Airlock 107 Staging Area, or the TMF Staging Area until the requirements of Attachment B7 have been completed but for no longer than ten (10) days. These areas are shown in Figure M1-1.</u></p>	<p>These changes are needed to increase the CH TRU mixed waste throughput to accommodate higher shipping rates that WIPP has experienced and anticipates in the future. It also incorporates staging areas and make changes to the CH TRU mixed waste storage areas in the WHB. These changes also address the Permittees waste verification and examination.</p>

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F-1	<p><u>During this time period seven percent of the containers in each waste stream in each shipment will undergo verification and examination to show that there are no corrosive, ignitable or reactive wastes. Verification and examination of CH-TRU mixed waste will occur either via radiography, VE or through a review of the VE records.</u></p> <p><u>Each unverified and examined container assembly will be tagged to indicate that verification and examination has not occurred. No containers from an unverified or unexamined waste stream in an unverified and unexamined shipment can be placed in the repository.</u></p> <p><u>Containers will be randomly selected from each waste stream in each shipment to undergo verification and examination. The selected containers will be located and, if verification and examination is to be performed via radiography the selected container will be placed on a facility or containment pallet for transport to the radiography equipment. After verification and examination is complete the container will be returned to the appropriate staging location and the tag removed to indicate that all the containers from that waste stream in that shipment are ready for storage and emplacement. Waste stream shipments may not be disposed until the verification and examination data are approved in accordance with Attachment B7 of this HWFP.</u></p>	<p>These changes are needed to describe the details of the Permittees waste verification and examination. For the purposes of Contingency Planning. The justification for the verification rate of 7 percent is discussed in the Overview and the response to NOD comments 3.2.t. and u.</p> <p>The process of random selection from each shipment assures that the sample is statistically representative and that a subpopulation of the waste is tested.</p>
F-1	<p>Aisle space shall be maintained in all CH Bay waste storage <u>and staging</u> areas. The aisle space shall be adequate to allow unobstructed movement of fire response personnel, spill-control equipment, and decontamination equipment that would be used in the event of an off-normal event. An aisle space between facility <u>or containment</u> pallets will be maintained in all CH TRU mixed waste storage <u>and staging</u> areas.</p>	<p>These changes are needed to incorporate staging areas.</p>

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F-1	<p><u><b>RH Complex Operations</b></u></p> <p><u>Loaded RH TRU casks are received in the RH Bay of the WHB. The RH Bay is served by an overhead bridge crane used for cask handling and maintenance operations. Storage in the RH Bay occurs in the RH-TRU 72-B or CNS 10-160B casks. A maximum of two loaded casks may be stored in the RH Bay and a maximum of <b>one</b> cask in the Cask Unloading Room may be stored at one time. A minimum of 44 inches (1.1 m) will be maintained between loaded casks in the RH Bay. The cask serves as secondary containment in the RH Bay for the RH TRU mixed waste payload container. In addition, the RH Bay has a concrete floor.</u></p> <p><u>Single RH TRU mixed waste canisters are unloaded from the RH-TRU 72-B casks in the Transfer Cell of the RH Complex where they are transferred to facility casks. Drums of RH TRU mixed waste will be transferred remotely from the CNS 10-160B cask, into the Hot Cell, and loaded into a canister. Storage in the Hot Cell occurs in either drums or canisters. A maximum of 10 drums and 6 loaded canisters (262.02 ft<sup>3</sup> (7.42 m<sup>3</sup>)) may be stored in the Hot Cell.</u></p> <p><u>The Transfer Cell houses the Transfer Cell shuttle car, which is used to facilitate transferring the canister to the facility cask. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling. A maximum of one canister (31.43 ft<sup>3</sup> (0.89 m<sup>3</sup>)) may be stored in the Transfer Cell in a shielded insert in the Transfer Cell shuttle car or in a RH-72 B cask.</u></p> <p><u>The Facility Cask Loading Room provides for transfer of a canister to the facility cask for subsequent transfer to the waste hoist and to the Underground Hazardous Waste Disposal Unit. The Facility Cask Loading Room also functions as an air lock between the waste shaft and the Transfer Cell. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling. A maximum of one canister (31.43 ft<sup>3</sup> (0.89 m<sup>3</sup>)) may be stored in the Facility Cask in the Facility Cask Loading Room.</u></p> <p><u>Derived waste will be stored in the RH Bay and in the Hot Cell.</u></p>	<p>These changes are needed to incorporate RH TRU mixed waste management into the Contingency Plan.</p>

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F-1	<p>Parking Area Container Storage Unit <u>and Staging Area</u> (<del>Parking Area Unit</del>)</p> <p>The area <del>extending south from the WHB within the fenced enclosure identified as the Controlled Area</del> <u>Parking Area Storage Area</u> on Figure M1-2 is defined as the Parking Area Container Storage Unit. This area provides <del>space for</del> <u>storage for up to 7,160 ft<sup>3</sup> (202.5 m<sup>3</sup>) of CH and/or RH TRU mixed waste contained in up to 12 loaded Contact Handled Packages corresponding to 1,591 ft<sup>3</sup> (45 m<sup>3</sup>) of CH TRU mixed waste.</u> <u>50</u> Contact Handled Packages <u>and 14 Remote-Handled Packages</u>. Secondary containment and protection of the waste containers from standing rainwater are provided by the transportation of containers.</p> <p><u>The staging area is shown in Figure M1-2. This area may be used to stage verified and examined and unverified and unexamined CH TRU and RH TRU Packages for up to ten (10) days while the waste verification and examination requirements of Attachment B7 are being met. Once these requirements have been met the Packages may be moved to permitted storage areas.</u></p> <p><del>Twelve Contact Handled Packages containing a maximum of 1,591 ft<sup>3</sup> (45 m<sup>3</sup>) of CH TRU mixed waste can be stored in the Parking Area Unit. The safety criteria for Contact- or Remote- Handled Packages require that they be opened and vented at a frequency of at least once every 60 days. During normal operations the maximum residence time of any one container in the Parking Area Unit is typically five days. Therefore, during normal waste handling operations, Contact- or Remote- Handled Packages will not require venting while located in the Parking Area Unit. Any off-normal event which results in the need to store a waste container in the Parking Area Unit for a period of time approaching fifty-nine (59) days shall be mitigated by returning the shipment to the generator prior to the expiration of the 60 day NRC venting period or by moving the Contact- or Remote- Handled Package inside the WHB Unit where the waste will be removed and placed in one of the permitted storage areas or in the underground hazardous waste disposal unit.</del></p>	<p>This change describes the reconfiguration of the Parking Area to reflect the implementation of the staging areas.</p> <p>It also adds RH TRU mixed waste management.</p>
F-1	<p><u>Containment</u></p> <p>The WHB <del>Unit</del> has concrete floors, which are sealed with a coating designed to resist all but the strongest oxidizing agents. Therefore, TRU mixed wastes pose no compatibility problems with respect to the WHB <del>Unit</del> floor.</p>	<p>This change describes the containment provided for Permittees verification activities and for RH TRU mixed waste.</p>



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	<p><u>When verification and examination of TRU mixed waste involves radiography this function may occur in the TMF which encompasses an area of 9,081 square feet, There is sufficient floor space in the TMF to allow containment of liquids from waste containers which have been brought into the TMF.</u></p> <p>During normal operations, the floor of the <del>normal</del> storage <u>and staging</u> areas within the <u>TMF, CH Bay and RH Complex</u> shall be visually inspected on a weekly basis to verify that it is in good condition and free of <u>obvious</u> cracks and gaps. <u>When a RH TRU mixed waste container is present in the RH Complex, inspections will be conducted visually and/or using a closed-circuit television camera in order to manage worker dose and minimize radiation exposures. More extensive inspections of the areas are performed at least annually during routine maintenance periods when waste is not present.</u></p> <p>Floor areas of the WHB used during off-normal events will be inspected prior to use and weekly while in use. Containers located in the <u>staging or</u> permitted storage areas shall be elevated from the surface of the floor. TRU mixed waste containers that have been removed from Contact- <u>or Remote</u>-Handled <u>Packages</u> shall be <del>stored</del> <u>placed</u> at a designated <u>staging or</u> storage area inside the WHB so as to preclude exposure to the elements</p> <p>Secondary containment at <u>staging areas or</u> permitted storage areas inside the WHB Unit shall be provided by the floor. The Parking Area Unit, <u>Parking Area Staging Area</u> and TRUDOCK <del>storage</del> <u>staging</u> area of the WHB <del>Unit</del> do not require engineered secondary containment, <del>since waste TRU mixed waste is not held</del> or stored there unless it is protected by the Contact- <u>or Remote</u>-Handled Packaging. Floor drains, the fire suppression water collection sump, and portable dikes, if neededm will provide containment for liquids that may be generated by fire fighting. Sump capacities and locations are shown in Drawing 41-F-087-014. Residual fire fighting liquids will be placed in containers and managed as described above. <u>Secondary containment at storage locations inside the RH Bay, Cask Unloading Room, Transfer Cell, and Facility Cask Loading Room is provided by the cask or canisters that contain drums of RH TRU mixed waste. In the Hot Cell, secondary containment is provided by the Hot Cell subfloor. In addition, the RH Bay, Hot Cell, and Transfer Cell contain 220-gallon (833-L), in the Hot Cell 11,400-gallon (43,152-L) in the RH Bay, and 220-gallon (833-L) in the Transfer Cell sumps, respectively, to collect any liquids.</u></p>	
F-4d	Control, Containment, and Correction of the Emergency	This change modifies the text to include RH TRU mixed waste

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	<p>The WIPP facility is required to control an emergency and to minimize the potential for the occurrence, recurrence, or spread of releases due to the emergency situation, as described in 20.4.1.500 NMAC (incorporating 40 CFR §264.56 (e)). The WIPP Emergency Response procedures utilize the incident mitigation guidelines in NFPA 471, Responding to Hazardous Materials Incidents, with initial response priority being on control, and those actions necessary to <u>ensure</u> confinement and containment (the first line of defense) in the early, critical stages of a spill or leak. The RCRA Emergency Coordinator is responsible for stopping processes and operations when necessary, and removing or isolating containers. TRU mixed waste will remain within the WHB Unit, parked Contact- <del>or Remote</del>-Handled Packages, <del>casks</del>, and the underground HWDU. <u>Containers undergoing verification and examination will be placed on facility or containment pallets and moved to appropriate locations.</u></p> <p><u>All Emergencies</u></p> <p>The established procedures are based upon the incident level and a graded approach for nonradioactive <del>or CH, or RH TRU mixed</del> waste emergencies and initiated to:</p> <p><u>Control of Spills or Leaking or Punctured Containers of CH or RH TRU Mixed Waste</u></p> <p>In the event of spills or leaking or punctured containers of <del>CH</del> TRU mixed waste, the WIPP responds in three distinct phases: 1) the event, 2) the re-entry, and 3) the recovery.</p> <p><u>CH TRU Mixed Waste</u></p>	<p>management and the Permittees verification activities. It also separates the discussion into the CH TRU mixed waste and RH TRU mixed waste sections. The CH TRU mixed waste section retains the existing text.</p>

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F-4d	<p><u><b>RH TRU Mixed Waste</b></u></p> <p><u>During the event, operations in the RH Complex are immediately halted, the Central Monitoring Room operator is notified, and any personnel present in the RH Complex will be evacuated to minimize exposure.</u></p> <p><u>During the re-entry phase, an evaluation of the incident, including the nature of the release, amount, location, and other appropriate factors, will be performed. A Radioactive Work Permit (RWP) will be written for personnel who may enter with the appropriate protective clothing to further assess the situation, perform surveys and take samples, and, if possible, mitigate problems that could compound the hazards in the area. Based on the results of the evaluation, a determination will be made by cognizant managers, the RCRA Emergency Coordinator, radiological control personnel, and As Low As Reasonably Achievable Committee representatives whether to implement the Contingency Plan and to determine the appropriate course of action to recover from the event. An action response plan to decontaminate and recover affected areas and equipment, together with an RWP establishing the radiological controls required for the recovery, will be developed.</u></p> <p><u>During the recovery phase, the plan will be executed using the necessary resources to perform decontamination. This phase will include activities to minimize the spread of contamination to other areas and decontaminating the affected area. Every reasonable effort will be made to minimize the amount of derived waste while providing for the health and safety of personnel. The recovery phase must be completed before the affected area and/or equipment are returned to service.</u></p>	<p>This change provides narrative describing the actions that will be taken if an off normal event affects the RH TRU mixed waste operations.</p>